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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,162	07/21/2005	Motohide Matsui	SHX 354	7894
23581	7590	09/05/2008		
KOLISCH HARTWELL, P.C. 200 PACIFIC BUILDING 520 SW YAMHILL STREET PORTLAND, OR 97204			EXAMINER MC GINTY, DOUGLAS J	
			ART UNIT	PAPER NUMBER
			1796	
			MAIL DATE	DELIVERY MODE
			09/05/2008 PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/543,162

**Applicant(s)**

MATSUI ET AL.

**Examiner**

DOUGLAS MC GINTY

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-856)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 11-20-06, 10-21-05, & 7-21-05

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election without traverse of Group I, claims 1-7 and 13-16 in the reply filed on July 14, 2008 is acknowledged.

The non-elected claims have been cancelled. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 needs to be rewritten to clearly set forth the claimed invention. The precursor is placed "in a state where it is on a substrate material" and then the superconductor is produced "by partial melting and solidifying the precursor in said state." It is not clear what the "state" is.

Claim 2 also should be rewritten. It is unclear what is meant by "does not allow formation of a portion". The same language appears to be unconnected to the rest of the claim.

Claim 4 should be rewritten. It is unclear how the intermediate layer is placed on the mount and then the substrate is placed on the same mount.

Claim 13 should be rewritten as well. It is unclear what is meant by the "outside face of the oxide superconductor" and "the solidified portion corresponds to a substrate material". It is not understood how the "outside face" relates to the rest of the superconductor or how a portion "corresponds" to a substrate material.

Claim 15 lacks antecedent basis for the term "bottom" because it depends from a claim without spatial orientation.

Claim 16 is unclear what is meant by "similar".

The claims should be rewritten as appropriate to clearly set forth the claimed invention. No new matter should be added. Notwithstanding the above rejections, the claims are examined to the extent understood. MPEP 2173.06.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. US 7,001,870.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the patent are directed to a method for producing an oxide superconductor by melt processing. The "solder" in the patent claims is a metal compound which is meltable when the precursor is in a partially molten state. The superconductor in the patent claims, "RE123", is a RE-Ba-Cu-O based oxide. See US 7,001,870, col. 5, lines 33-44. The patent claims also provide that the "solder" contains a rare earth such as Y, etc., as well as Ba and Cu. Claims 8 and 9 in that patent also provide that the "solder" may contain Ag or Pt. The patent claims do not appear to expressly state that the oxide superconductor is produced "by partial melting and solidifying the precursor in said state", but to the extent the present claims are understood, the patent claims involve melting processing as well.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over lida (US 7,001,870).<sup>1</sup>

The claims of lida have been discussed in the above obviousness-type double patenting rejection.

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<sup>1</sup> lida constitutes prior art under 35 USC 102(e) because its US filing date is earlier than the present application and the reference is by another. MPEP 2136.03, 2136.04. Also, please note that lida is equivalent to WO 03/002483 which constitutes prior art under 35 USC 102(b).

The lida claims and teachings do not appear to expressly state that the oxide superconductor is produced "by partial melting and solidifying the precursor in said state".

To the extent understood, however, the present claims would have been obvious to one of ordinary skill in the art over the teachings of lida. The reference is directed to a process of melt processing to produce an oxide superconductor by placing a meltable compound on the superconductor, followed by melting and solidifying the same.

To the extent claim 4 is understood, lida teaches the placement of multiple layers of superconductor and substrate on a mount (col. 3, line 57, through col. 4, line 38).

Claims 1-7 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami (US 5,521,150).

Murakami teaches a method for producing an oxide superconductor with the steps of placing a substrate such as Ag or the compounds of Ba and/or Cu on a superconductor, and heating the structure to the point where the precursor is in a nearly molten state, to produce the oxide superconductor (col. 2, lines 9-23 and 41-54). Cracking is avoided (col. 2, lines 50-55), which one skilled in the art would have recognized as attributable to different thermal coefficients of expansion. The superconductor oxide is based on RE-Ba-Cu-O (Abstract). The reference further teaches an RE-Ba-Cu-O superconductor which is solidified after melt-processing (Fig. 2) with an "adhesive phase", aka, substrate, that has Ag and oxides of Ba and Cu (Abstract).

Murakami does not appear to teach that the precursor is placed on the substrate. As noted above, however, the reference teaches adding the substrate to the precursor. It would have been obvious to turn the structure over to put the precursor on the substrate rather than vice versa. See MPEP 2144.04, IV.C. and VI.A.

With respect to claims 3 and 13, Murakami does not appear to expressly teach that a "portion" of the superconductor does not contain a rare earth element. As discussed above, however, the reference teaches an "adhesive phase" which may contain Ag or oxides of Ba and/or Cu. Since the rare earth element is not required because other choices were available, it would have been obvious to omit the same. Obviousness only requires a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988).

With respect to claim 4, Murakami teaches various mixed oxides of Y, etc., in an intermediate layer, i.e., "interface" (col. 2, line 55, through col. 3, line 20).

With respect to claims 7 and 14, Ag may be present, as discussed above.

To the extent that claim 16 is understood, Murakami teaches various magnetic field distributions (col. 3, lines 12-17).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS MC GINTY whose telephone number is (571)272-1029. The examiner can normally be reached on M-F, 830-500.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOUGLAS MC GINTY/  
Primary Examiner, Art Unit 1796